

ABSTRACT OF THE DISCLOSURE

Constant components and rotation fundamental mode components on the slide plane between a rotor and a stator are derived from a magnetic field distribution at a predetermined time. The analysis space is divided into a rotor space and a stator space. A fundamental mode on the slide plane is rotated by a rotation angle of a rotation magnetic field corresponding to a time-step width. A solution obtained in this state is added to the constant components. By using the addition result as the boundary conditions on the slide plane, non-linear magnetic field analysis is performed by taking into consideration the magnetic saturation in the stator space. The rotation fundamental mode on the slide mode is rotated by an angle obtained by subtracting the rotation angle of the rotor from the rotation angle of the rotation magnetic field corresponding to the time-step width.